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A NATURALIST

VOLUME 13 NUMBER 4

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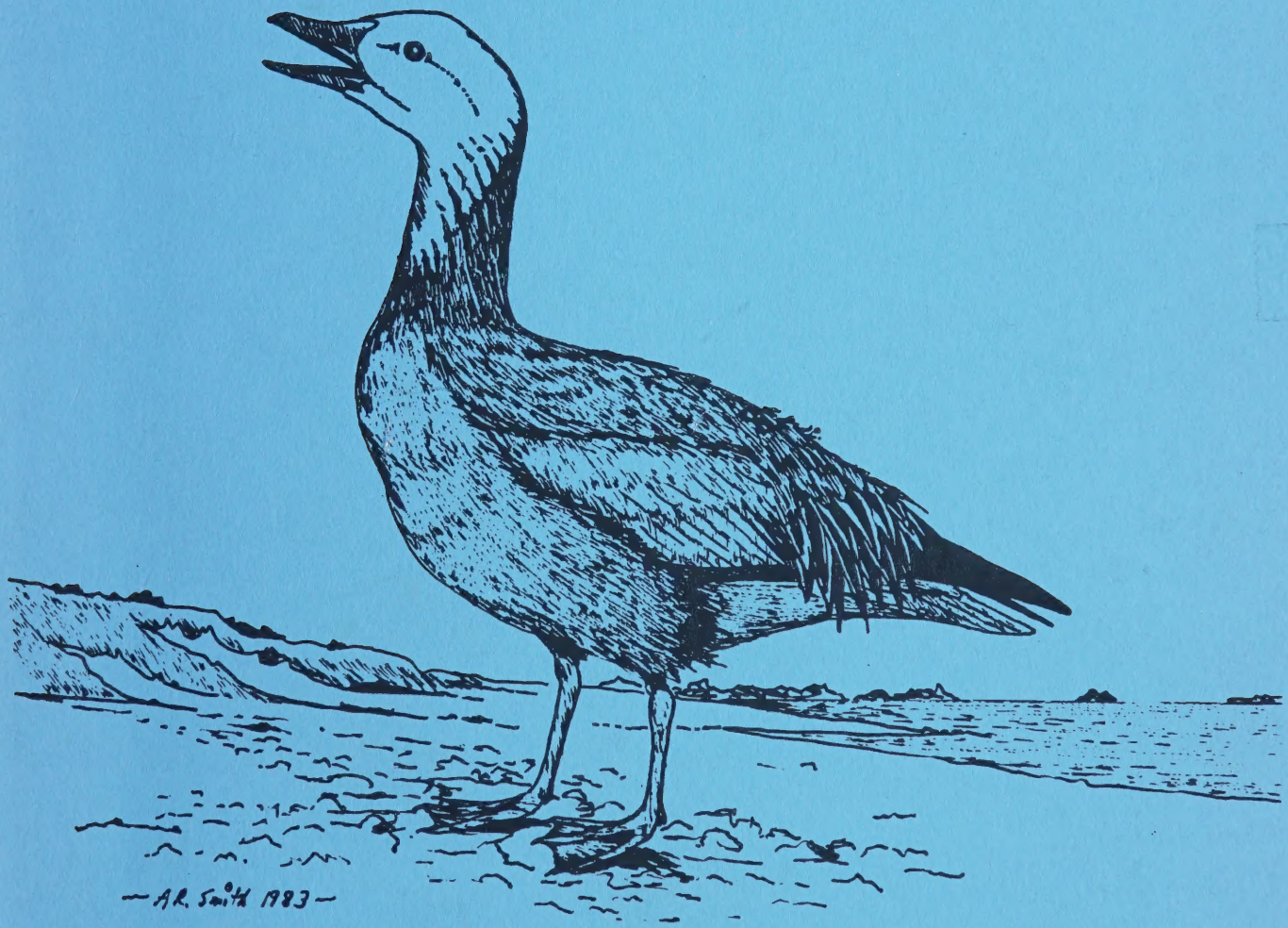

ALBERTA NATURALIST

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Beginning with the next issue (Volume 14 Number 1), the Alberta Naturalist will reflect major changes contributing to what is expected to constitute significant upgrading. Overall quality - from the caliber (and consistency) of articles to layout and readability - will be improved.

A large part of this improvement - particularly with respect to layout - is to be credited to Dick Dekker, noted Edmonton naturalist and artist, who has generously agreed to donate his talent and time to the AN.

In order for this venture to succeed, we are counting on support from both past and potential contributors. Not only are good articles most welcomed, but we intend that photographs will play an important role. If you have any good black-and-white photographs you would be willing to let us use, we would appreciate receiving prints or lists of availability.

The "new" AN will debut with an issue dedicated to the late Dewey Soper, FAN's first Honorary Member. For this particular issue, Dave Ealey and I are sharing editorial duties, with him assuming responsibility for the articles relating to Soper's work, so, with Dick's contribution, Volume 14 Number 1 will truly represent a "team effort".

- Virginia Young, Editor

PLANT SPECIES OF LACOMBE LAKE NATURAL AREA

by D. A. Dew
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INTRODUCTION

This report consists of a listing of vascular plant species observed on a small natural area adjacent to Lacombe Lake. The study area is about eight hectares (20 acres) in size located on Pt. NE3-27-40-W4 which is about five kilometers southwest of Lacombe.

The study area was purchased in 1977 by the Kinsmen Club of Lacombe for a picnic area. Prior to that time it was privately owned and was moderately grazed by livestock for an unknown number of years.

THE STUDY

The author became interested in this area because of the variety of plants to be found there, so when student help became available, part of their time was used to collect and mount specimens of all vascular plants in the study area.

Collections were made during the summers of 1978 to 1980 inclusive. Specimens of all plants were collected (with one exception) and filed in the herbarium at the Lacombe Research Station. The exception was Sparrow's-egg Lady's Slipper, *Cypripedium passerinum*, because only one flowering plant was observed.

Casual observations indicate that since grazing has been discontinued, herbaceous undergrowth, particularly the grasses, has increased and the open grassy areas are being invaded by woody species such as Western Snowberry, *Symphoricarpos occidentalis*.

Human activity is limited to a small picnic area and canoe-launching site so that the majority of the area can be considered an undisturbed natural area.

The list of grasses is not complete and a few other species may have been overlooked due to time constraints and the difficulty of identifying some species in the field.

HABITAT DESCRIPTION

The study area is a mixed wood habitat with trembling aspen predominating. A small grove of mature spruce and some small grassy areas are also included. Five community types can be described as follows:

1. Most of the area is covered with a mature stand of trembling aspen, *Populus tremuloides*. The understory consists of smaller woody plants and herbs.

2. An open area on a south-facing slope is populated mainly with grasses such as Rough Fescue, *Festuca scabrella*. This community is being invaded by Western Snowberry, *Symphoricarpus occidentalis*.

3. A mature stand of Spruce, *Picea glauca*, is found at the base of a north-facing slope near the lakeshore. The understory here is sparse, consisting mainly of small herbs.

4. The lakeshore is wet and marshy, supporting a variety of water-loving plants.

5. The picnic area has been disturbed to provide for human use. Introduced weed species may be found here.

The species list follows with coding to indicate the frequency of occurrence: C - Common; O - Occasional (small colony or scattered plants); R - Rare (one or two plants seen). Numbers refer to those used above under habitat description.

SPECIES LIST - KINSMEN PICNIC AREA
LACOMBE LAKE 1978-80

		Occurrence	Habitat
EQUICETACEAE			
Equisetum arvense	Field Horsetail	C	4
PINACEAE			
Picea glauca	White Spruce	C	4
TYPHACEAE			
Typha latifolia	Cattail	C	4
SPARGANIACEAE			
Sparganium chlorocarpum	Stemless Burr-reed	O	4
S. multipenduculatum	Many Stalked Burr-reed	O	4
NAJADACEAE			
Potamogeton richardsonii	Richardson Pondweed	O	4
ALISMACEAE			
Sagittaria cuneata	Arum-leaved Arrowhead	O	4
GRAMINEAE			
Bouteloua gracilis	Blue Grama Grass	C	2

		Occurrence	Habitat
GRAMINEAE (continued)			
Calamagrostis inexpansa	Northern Reed-grass	O	4
Elymus inovatus	Hairy Wild Rye	O	2
Festuca scabrella	Rough Fescue	C	2
Koeleria cristata	June Grass	C	2
Oryzopsis asperifolia	Mountain Rice Grass	O	1
Poa pratensis	Kentucky Bluegrass	C	2
Stipa comata	Spear Grass	C	2
S. viridula	Green-needle Grass	O	2
CYPERACEAE			
Carex rostrata	Turned Sedge	C	4
C. siccata	Hay Sedge	C	5
LILIACEAE			
Disporum trachycarpum	Fairy Bells	O	1
Lilium philadelphicum	Western Wood Lily	O	1
Maianthemum canadense	Two-leaved Solomon's-Seal	C	1
Smilacena stellata	Star-flowered Solomon's-Seal	O	1
IRIDACEAE			
Sisyrinchium angustifolium	Blue-eyed Grass	O	2
ORCHIDAECEAE			
Corallorhiza maculata	Spotted Coral-root	R	1
Cypripedium passerinum	Sparrow's-egg Lady's-Slipper	R	4
Habenaria hyperborea	Northern Green Orchid	O	4
H. obtusa	Blunt-leaved Orchid	R	4
Malaxis monophylla	Adder's-mouth	O	4
Orchis rotundifolia	Round-leaved Orchid	O	4
SALICACEAE			
Populus tremuloides	Trembling Aspen	C	1

		Occurrence	Habitat
SALICACEAE (continued)			
Salix spp.	Willow	C	4
BETULACEAE			
Alnus tenuifolia	Mountain Alder	C	1
Betula papyrifera	White Birch	O	1
Corylus cornuta	Beaked Hazel-nut	O	1
SANTALACEAE			
Comandra pallida	Pale Comandra	O	2
CHENOPODIACEAE			
Chenopodium capitatum	Strawberry Blite	R	5
CARYOPHYLLACEAE			
Arenaria laterifolia	Blunt-leaved Sandwort	C	3
Cerastium arvense	Field Chickweed	C	1
Stellaria longifolia	Long-leaved Chickweed	O	1
S. longipes	Long-stalked Chickweed	O	1
NYMPHAEACEAE			
Nuphar variegatum	Yellow Pond-lily	C	4
RANUNCULACEAE			
Actaea rubra	Baneberry (white)	O	1
Anemone canadensis	Canada Anemone	O	1
A. cylindrica	Long-fruited Anemone	O	1
A. multifida	Cut-leaved Anemone	O	1
A. patens	Prairie Crocus	O	2
Aquilega brevistyla	Tall Blue Columbine	C	3
Clematis verticellaris	Purple Clematis	O	1
Ranunculus cymbalaria	Creeping Buttercup	O	4
R. rhomboideus	Prairie Buttercup	R	2

		Occurrence	Habitat
RANUNCULACEAE (continued)			
Thalictrum venulosum	Veiny Meadow Rue	0	1
FUMARIACEAE			
Corydalis aurea	Golden Corydalis	0	5
CRUCIFERAE			
Lepidium densiflorum	Common Pepper-grass	0	5
SAXIFRAGACEAE			
Mitella nuda	Bishop's-cap	0	4
Parnassia palustris	Northern Grass-of-Parnassus	0	4
Ribes hudsonianum	Wild Black Currant	0	1
R. oxycanthoides	Wild Gooseberry	0	1
ROSACEAE			
Agrimonia striata	Grooved Agrimony	C	1
Amelanchier alnifolia	Saskatoon	C	1
Fragaria virginiana	Wild Strawberry	C	1
Geum allepicum	Yellow Avens	C	1
Potentilla arguta	White Cinquefoil	C	1
P. gracilis	Slender Cinquefoil	0	1
P. norvegica	Rough Cinquefoil	0	5
Prunus pensylvanica	Pin Cherry	0	1
P. virginiana	Red Choke Cherry	0	1
Rosa acicularis	Prickly Rose	0	1
R. arkansana	Prairie Rose	0	2
Rubus pubescens	Running Raspberry	0	1
R.idaeus	Wild Red Raspberry	0	1
Spirea lucida	Shiny-leaved Meadowsweet	0	1

		Occurrence	Habitat
LEGUMINOSAE			
Astragalus agrestis	Purple Milk-vetch	O	2
A. bisulcatus	Two-grooved Milk-vetch	O	1
A. frigidus	Purple vetchling	O	1
A. striatus	Ascending Purple Milk-vetch	O	1
GERANIACEAE			
Erodium cicutarium	Stork's-bill	O	5
Geranium richardsonii	White Geranium	C	1
VIOLACEAE			
Viola adunca	Early Blue Violet	C	2
V. palustris	Marsh Violet	O	4
V. pedatifida	Crowfoot Violet	O	2
V. renifolia	Kidney-leaved Violet	O	1
V. rugulosa	Western Canada Violet	C	1
ELAEAGNACEAE			
Sheperdia canadensis	Russet Buffaloberry	O	3
ONAGRACEAE			
Oenothera biennis	Yellow Evening-Primrose	O	2
ARALIACEAE			
Aralia nudicaulis	Wild Sarsparilla	O	1
UMBELLIFEREAE			
Heracleum lanatum	Cow-Parsnip	O	1
Osmorhiza depauperata	Sweet Cicely	R	1
Sanicula marilandica	Snake-Root	C	1
CORNACEAE			
Cornus canadensis	Bunchberry	C	1
C. stolonifera	Red-Osier Dogwood	C	1

		Occurrence	Habitat
PYROLACEAE			
Monases uniflora	One-flowered Wintergreen	O	1
Pyrola asarifolia	Pink Wintergreen	C	1
P. elliptica	White Wintergreen	O	1
P. secunda	One-sided Wintergreen	O	4
P. virens	Greenish-flowered Wintergreen	R	4
PRIMULACEAE			
Androsace septentrionalis	Pygmy-flower	O	5
Lysimachia ciliata	Fringed Loosestrife	C	1
L. thyrisflora	Yellow Loosestrife	R	4
Primula incana	Mealy Primrose	O	4
GENTIANACEAE			
Gentianella amarella	Felwort	O	1
G. crinata	Fringed Gentian	O	4
APOCYNACEAE			
Apocynum androsaemifolium	Spreading Dogbane	C	2
ASCLEPIADACEAE			
Asclepias ovalifolia	Dwarf Milkweed	O	2
BORAGINACEAE			
Lithospermum incisum	Puccoon	O	2
Mertensia paniculata	Tall Lungwort	C	1
LABIATAE			
Agastache foeniculum	Giant-Hyssop	O	2
Mentha arvensis	Field Mint	O	4
Monarda fistulosa	Wild Bergamont	C	2
Scutellaria galericulata	Common Skullcap	O	4
Stachys palustris	Marsh Hedge-Nettle	C	4

		Occurrence	Habitat
SCROPHULARIACEAE			
Pedicularis groenlandica	Elephant's-head	O	4
Pentstemon gracilis	Lilac-flowered Beard-tongue	C	2
LENTIBULARIACEAE			
Utricularia vulgaris	Common Bladderwort	O	4
RUBIACEAE			
Galium boreale	Northern Bedstraw	O	5
G. triflorum	Sweet-scented Bedstraw	C	1
CAPRIFOLIACEAE			
Linnaea borealis	Twinflower	C	3
Lonicera involucrata	Bracted Honeysuckle	O	1
Symphoriocarpos albus	Thin-leaved Snowberry	O	4
S. occidentalis	Western Snowberry	C	2
Viburnum edule	Low Bush-Cranberry	O	1
CAMPANULACEAE			
Campanula rotundifolia	Harebell	O	2
COMPOSITAE			
Achillea millefolium	Yarrow	O	2
Artimesia frigida	Pasture Sage	C	2
Aster brachyactis	Rayless Aster	O	5
A. hesperius	Western Willow Aster	C	1
Chrysopsis villosa	Hairy Golden-Aster	O	2
Crepis tectorum	Narrow-leaved Hawk's-beard	O	5
Erigeron glabellus	Smooth Fleabane	O	2
E. philadelphicus	Philadelphia Fleabane	O	5
Helianthus laetiflorus	Rhombic-leaved Sunflower	O	2
Lygodesmia juncea	Skeletonweed	O	2

		Occurrence	Habitat
COMPOSITAE (continued)			
Petasites palmatus	Palmate-leaved Coltsfoot	C	3
P. sagittatus	Arrow-leaved Coltsfoot	O	3
Senecio pauperculus	Balsam Groundsel	O	4
Solidago missouriensis	Missouri Goldenrod	O	2
S. frigida	Rigid Goldenrod	O	2
Taraxicum officinale	Dandelion	C	5
Tragopogon dubius	Goat's-Beard	O	5

AMERICAN TREE SPARROW NESTING RECORD AND OTHER BIRD NOTES FROM THE CAMERON HILLS, NORTHWESTERN ALBERTA

by Cleve Wershler
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From August 6 to 11, 1982, Matt Fairbarns, Cliff Wallis and I conducted preliminary field investigations on the vegetation and wildlife in the Cameron Hills area of extreme northwestern Alberta for the Natural Areas Coordinator, Alberta Department of Energy and Natural Resources. Apart from a few studies in the vicinity of Bistcho Lake, little ornithological work had taken place in this remote reach of the Province.

The Cameron Hills, an erosional remnant, rise above the Hay River Section of the Boreal Forest and constitute a subarctic environment, similar in some respects to the Caribou Mountains to the east and south. Vegetation consists largely of relatively low open black spruce bog forest with an understory of Labrador tea, peat mosses and reindeer lichens. Only minor amounts of lodgepole pine and aspen woods occur on better-drained sites. Numerous lakes and ponds are scattered through the area. We worked out of a base camp located next to a small lake at 59°55' latitude, 117°30-31' longitude, at an elevation of 2300 feet (703 meters).

On August 7, while investigating an area of swampy ponds 6 km east and 1 km south of camp, we came across, to our amazement, an American Tree Sparrow calling excitedly from the top of a dead tree. It was observed for about 20 minutes and I twice watched it disappear, with food, into thick damp vegetation at a pond margin where at least two fledglings were calling. The site was about 11 km from the Northwest Territories border, at 2350 feet (719 meters) elevation, and at 59°54' latitude and 116°24' longitude. Topographically, it was in a large

depression on a slight southeast-facing slope. The vegetation was composed of scattered small Black Spruce and Tamarack, willows, Dwarf Birch, Labrador Tea, Sweet Gale and sedges. Lincoln's Sparrows were nesting in similar habitat nearby. This report is the first of the American Tree Sparrow nesting in Alberta, and the location is a fair distance away from its known southern breeding limits in northeastern Saskatchewan, the Northwest Territories and northern British Columbia.

A total of 56 bird species were recorded during the study period. Species of particular note were the Hooded Merganser, the subarctic redpoll species (2 small flocks) and the Red-throated Loon (at least three adults). The Red-throated Loon is one of several subarctic species that have been found nesting in the Caribou Mountains. Although no evidence of nesting was found in the Cameron Hills, it was seen daily close to camp. On several mornings a duet call was delivered around dawn, and ranks with the most amazing bird vocalizations that I have heard.

The timing of this study was not ideal for assessing breeding bird populations - most species had completed, or were in the final stages of, nesting. As is the case in other far northern Alberta locations, some species, common in the Boreal Forest farther south, appeared to be either rare or absent. Future studies, conducted in June or July, will undoubtedly provide additional valuable and interesting information.

WINTER SIGHTING OF A MALE BROWN-HEADED COWBIRD IN FORT McMURRAY, ALBERTA

by John R. Gulley and Brian K. Wylie
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A male Brown-headed Cowbird was sighted together with a flock of House Sparrows in Fort McMurray, Alberta, during the winter of 1983. This bird was first positively identified on January 29 by B. Wylie. It was sighted almost daily throughout February and was last recorded on March 9 by J. Gulley. The bird appeared to be healthy as it was active throughout the sighting period.

The authors have been able to find only one other winter sighting of this species on the Prairie Provinces. That sighting occurred on January 2, 1960, during the Christmas Bird Count at Masefield, Saskatchewan.

The fate of the bird is unknown. However, the last sighting was made 60 days prior to the arrival of the first spring migrant cowbirds in the Fort McMurray area, and we assume that the overwintering bird succumbed to the cold weather.

HOUSE FINCH NEAR DUNSTABLE, ALBERTA

by Virginia Young
R.R. #1
Busby, Alberta TOG OHO

On September 19, 1983, an adult male House Finch appeared on my bird feeder. He stayed in the vicinity of the yard and feeder for ten to fifteen minutes before moving on, apparently in loose association with a handful of assorted migrant sparrows and juncos.

This is the second occasion I have noticed a House Finch visiting our feeder. The first, also a lone male, turned up in the company of Purple Finches August 13 to September 3, 1978. Photographs were taken of this bird and the record was fully-substantiated by the Alberta Ornithological Records Committee (Alberta Naturalist: 9(2): 78).

THE WAGNER NATURAL AREA -
A REMARKABLE SUCCESS STORY

by J. Derek Johnson
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During the summer of 1982, plans by Alberta Transportation to construct a road linking Highways 16 and 16X focused attention on a piece of land, locally known as the "Wagner Bog", south of Highway 16X just west of the current limit of the City of Edmonton. Concerns expressed by many groups and individuals managed to half, for the time being, construction plans which would have adversely affected the bog. While the battle to prevent construction of the road gave Wagner Bog a high profile, it was only the peak of interest in an area which has held a fascination for many local people for some time. However, outside the Edmonton area few people know much, if anything, about this natural area. It is the intention of this article to remedy the situation.

Wagner Bog, technically a rich, calcareous peatland or mire, not a bog, possesses an amazing amount of habitat diversity for an area only half section in size. The most notable feature of the area is the marl ponds. These are wetland areas filled with lime-rich deposits. Tamarack and sedge fens, black spruce - Labrador tea - *Sphagnum* stands, mixed birch - poplar - willow stands, a few small clumps of white spruce and a few small hay meadows are also found in the area. Thirty-five acres of high ground have been cultivated, but the remainder of the area has remained in a more or less natural state, except for the few small hay

meadows are also found in the area. Occasional logging has removed most of the larger white spruce from the area. Thirty-five acres of high ground have been cultivated, but the remainder of the area has remained in a more or less natural state, except for the few small hay meadows. Fourteen orchid species have been found in the area which in itself is remarkable.

Much of the following information on the history of the Wagner Bog has been extracted from information supplied by Diane Griffin of Alberta Energy and Natural Resources. In the early 1900's the section of land containing the natural area was under the ownership of the Canadian Pacific Railroad Company. Through several intermediate steps, the north half of the section came into the possession of Mr. William Wagner. The natural area takes its name from his father.

The Edmonton Bird Club was the first naturalist group to use the area for field trip purposes and individuals such as Cy Hampson, Edgar Jones and Dr. Bill Fuller have been interested in the natural value of this area since the 1950's. Through Bill Morgan, the Alberta Wildlife Foundation obtained a one-year option in 1970 to purchase the northern half-section from Mr. Wagner. A number of groups and individuals were interested in assisting with the acquisition of this diverse area. Funds were obtained through the Nature Conservancy of Canada, an anonymous Foundation and the graduate students and professors from the University of Alberta, while the Government of Alberta supplied approximately two-thirds of the funds. The 320-acre parcel was purchased in December of 1971 by the Land Assembly Division of Alberta Environment for environmental education purposes.

The Alberta Panel of the International Biological Program (IBP) surveyed the area in 1969 and noted "very interesting calcareous fens, marl bogs and a nesting colony of Bonaparte's gulls". The gulls have since left. More detailed biophysical studies were conducted through the Alberta Wildlife Foundation in 1973 and by biologists from the Public Lands Division's Natural Areas Program in 1980.

Subsequent to acquisition of the land, attention turned to proper management of the area. In 1973 the Alberta Wildlife Foundation attempted to establish an environmental center at the Wagner Bog Natural Area, but was unsuccessful in securing funding. Representatives from the University of Alberta, Edmonton Public School Board, Edmonton Separate School Board, Northern Alberta Institute of Technology, Alberta IBP Panel, Alberta Environment, Alberta Environmental Research Trust and the Department of Lands and Forests held a series of meetings to discuss property management. As a result, seven educational and scientific institutions and organizations sent a brief to the Honourable Allan A. Warrack, Minister of the Department of Lands and Forests which was entitled "A Brief Respecting the Establishment, Use and Management of Ecological Reserves and Natural Areas, with Special Reference t[o] [t]he Wagner Property". In July of 1975 administration of the Wagner Property was transferred to Alberta Energy and Natural Resources as part of the Natural Areas program. Since 1975 the Natural Area has been managed under the authority of the Public Lands Act. The Wagner Natural Area is intended for use in existing school programs. However, the site will not be widely advertised for this purpose until a management plan and regulations are in place.

Recent plans by Alberta Transportation to construct a road peaked concern over the future of the Natural Area. Construction of a road along the eastern side of the Natural Area would separate it from springs on adjacent privately-owned land which would effectively remove the major source of water sustaining the marl ponds. Initially it was hoped that the problem could be alleviated by the purchase of additional land, but acquisition attempts have been unsuccessful. The designs of

Alberta Transportation on the area mobilized action by a number of concerned groups and individuals during the summer of 1982. Representatives of the Botany Department at the University of Alberta, the Edmonton Natural History Club, the Edmonton Bird Club, the Federation of Alberta Naturalists, the Alberta Wildlife Foundation, local residents and others, through letters to Ministers and appearances at public hearings managed to get plans for the road shelved for the time being.

In response to the danger of losing the Wagner Natural Area by default, the interested parties mentioned above got together in the fall of 1982 to incorporate under the name "Wagner Natural Area Society" (WNAS). A Management Committee has been set up, based on the same principles as that of the Clifford E. Lee Nature Sanctuary. Currently the committee consists of representatives from the Edmonton Natural HIstory Club, the Edmonton Bird Club, the Federation of Alberta Naturalists, the Alberta Wildlife Foundation, the Devonian Botanic Garden, the Department of Botany at the University of Alberta, the County of Parkland, the Parkland Rural Ratepayers Association and the Natural Areas program of Alberta Energy and Natural Resources (ex officio).

After some haggling and a few minor misunderstandings, a 21-year lease has been obtained by the Society from Alberta Energy and Natural Resources. Plans are well underway to develop a trail system and an interpretive booklet for use by school groups. A $15,000 grant from the Alberta Recreation, Parks and Wildlife Foundation is assisting the first phase of trail construction. The intial gravelled sections of the first trail, called the "Marl Pond Trail", have been laid; boardwalk sections of the trail have been constructed and will be put in place this winter when the ground is frozen and disturbance will be minimal. Wells are being drilled on the property to monitor changes in water levels so that some idea can be obtained of annual fluctuations and the possible effects development in the surrounding area may have on the water regime of the Natural Area itself.

Culmination of all the hard work and effort by the Society and the Natural Areas program of Alberta Energy and Natural Resources came on October 21, 1983, with the official designation of the Wagner Natural Area. Over 80 people were in attendance, including such notables as the Honourable Don Sparrow, Associate Minister of Public Lands and Wildlife, and Bill Purdy, the MLA for Stony Plain. William Wagner was also in attendance. Edgar Jones served as Master of Ceremonies. Terry Thormin, as president of the WNAS, signed the lease on its behalf and Liz Stinson, as secretary-treasurer, officially accepted the cheque for $15,000 from Chuck Moser, Executive Director of the Recreation, Parks and Wildlife Foundation. A sign with the Society's logo, the yellow lady's-slipper orchid, has been erected at the northwest corner of the property officially identifying the Natural Area. Another sign identifying the "Marl Pond Trail" and acknowledging RPW Foundation sponsorship has been erected at the trail head.

Following the designation ceremony at the Wagner Natural Area, a reception was held at the Devonian Botanic Garden for the invited guests. A six-minute Audio-visual presentation on the Wagner Natural Area, prepared by the Society and the Natural Areas program, was shown to highly favorable reviews, despite its somewhat hurried assembly in time for the designation ceremony. With a bit more polish it is expected that the slide presentation will be available for showing to any interested group. A longer, 20 minute presentation is to be prepared this winter.

A special issue of The Edmonton Naturalist (Vol. 10 No. 2, Dec. 1982) prepared

by the Edmonton Natural History Club on the "Wagner Bog" is recommended for anyone who is interested in more information on the history, hydrology, flora or fauna of the area. It is available at cost from the Edmonton Natural History Club, Box 1582, Edmonton, Alberta T5J 2N9.

UPDATE ON WHOOPING CRANE PROGRAM 1983

by E. Kuyt
Canadian Wildlife Service
1000-9942-108 St., Edmonton, Alberta

The Aransas National Wildlife Refuge (ANWR) staff reported that 73 Whooping Cranes (67 adults and 6 young-of-the-year) arrived in fall 1982. Two of the juvenals died at ANWR about 1 February and 31 December, leaving 71 birds to begin spring migration.

Families #10 and #2 were radio-tracked from ANWR by U.S. biologist Labuda and CWS biologist Kuyt. Family #2 (2 adults and juvenal, followed by Kuyt) departed ANWR at 10:30 a.m. on 9 April 1983 and landed on the breeding range in Wood Buffalo National Park (WBNP) at about 6:30 p.m. on 22 April. The 14-day journey consisted of ten days flying and four days "off" when snow, fog and other unfavourable weather prevented the cranes from flying.

Family #10, followed by Labuda departed ANWR on 11 April, but did not reach the breeding range intact. The adults were observed near last year's nest on 8 May, and on 14 May the new nest contained the full clutch of two eggs. The pair's radio-equipped juvenal was not located until 28 May when it was radio-tracked by CWS biologists Kuyt and Goossen to an area about 11 km south of the nest site where the young bird hatched in 1982.

On 14 May 1983 a sub-adult female Whooping Crane was found dead near Edam, Saskatchewan, leaving a summering population of 70 birds.

A rainy fall of 1982, good winter precipitation and below-normal spring temperatures in 1983 contributed to excellent moisture levels, probably the best habitat conditions in the Whoopers' breeding range since 1977. CWS biologists located 23 nests between 3 and 14 May, an all-time record, exceeding the 1979-1980 number by four nests. All nests originally contained two eggs upon completion of laying but one egg disappeared. Three nests were destroyed by unknown predators between 20 and 28 May.

As part of the continuing program to establish a second Whooping Crane population (using Greater Sandhill Cranes as surrogate parents), 19 excess eggs were removed from WBNP on 30 May. One egg was determined to be addled. The other 18 eggs were transported to Grays Lake, Idaho, and 16 live eggs placed in nests of Greater Sandhill Cranes. The other two eggs were shipped to the Patuxent Research Centre near Laurel, Maryland, to augment the captive Whooper population. Both of these eggs hatched as did 15 of the other 16 eggs. An additional 12 eggs were shipped to Grays Lake from Patuxent and 11 eggs hatched.

On or about 8 August, ten young whoopers from WBNP eggs and 8 whoopers from Patuxent eggs were banded by the Idaho Cooperative Wildlife Management Unit at Grays Lake. Survival has been excellent and by 24 October 11 chicks from WBNP eggs as well as 8 Patuxent chicks, for a total of 19 chicks (including at least one unbanded chick) had flown from Grays Lake.

In WBNP, at least 11 young whoopers were known to have survived until 31 July. On 1 August, ten of them were successfully colour-banded and six of these also equipped with radio transmitters. The eleventh chick escaped into thick spruce woods and could not be caught.

During the 1983 banding by Canadian Wildlife Service, great logistic support was provided by the Superintendent and staff of Wood Buffalo National Park.

On 4 August all eleven family groups were observed intact and we sighted a new family in an area where we have not found nests before. The Whooping Crane breeding population in 1983 was, therefore, at least 24 pairs. Three of the pairs nesting in 1983 did so for the first time and four other pairs, some containing known-age individuals, have nested only two or three times and are therefore just beginning their reproductive careers.

Although we had anticipated a record crop of 12 or 13 chicks, four chicks were killed by wolves before they were able to fly. We now expect 8 chicks to survive and a possible wintering population of about 75 birds.

WHOOPING CRANE EXPEDITIONS

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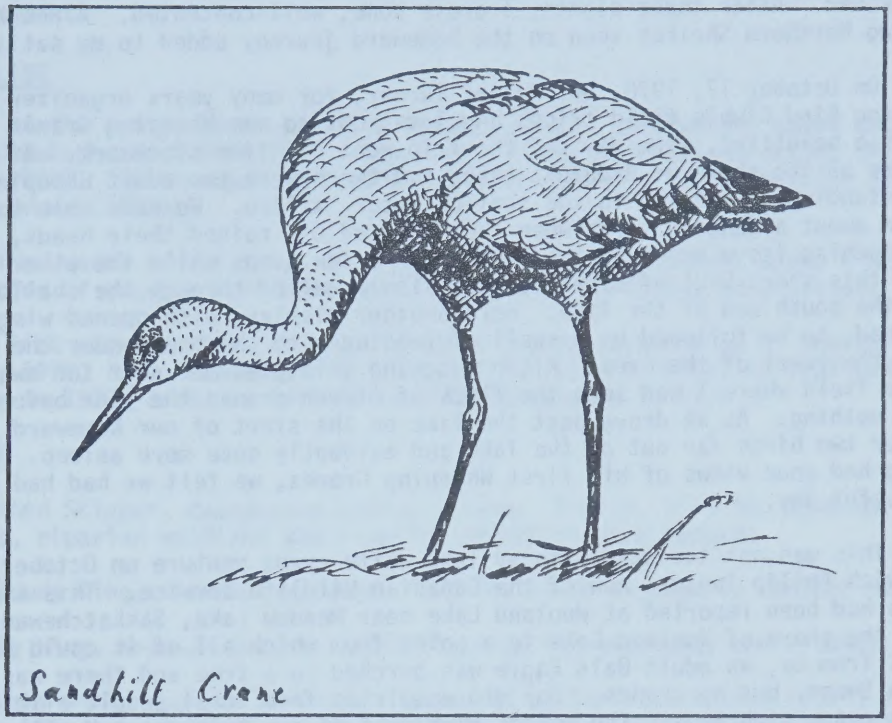
A recent issue of Nature Canada advertised Whooping Crane tours from Saskatoon, organized by the Saskatchewan Natural History Society. This reminded me of my own independent expeditions from Edmonton to see these birds during fall migration, over a decade ago. I imagine the SNHS trips are more consistently successful than I was: I saw the cranes on two out of three trips. On the first, I also encountered minor vicissitudes and delays which participants of the organized tours are probably spared.

As a result of advance correspondence with the Saskatchewan Museum of Natural History in Regina, a phone call on October 20, 1969, told me of a flock of Whooping Cranes that was feeding near Glaslyn, north of Battleford. Leaving home early the next morning, I arrived at the house of the Glaslyn conservation officer in the afternoon. His wife told me that her husband was out in the "bush" for the day. I had gathered that the cranes, when not feeding on one of several scattered stubble fields, came to nearby Midnight Lake fairly often to drink and perhaps for a change of diet. Therefore, I set off for a look at this elongated but very shallow lake. As the road did not approach it sufficiently, I drove over a stretch of dry-looking pasture. However, there was a well-camouflaged wet spot and, suddenly, the car was hopelessly stuck. The nearest farm was a mile away and, in a chastened mood, I trudged there for help. Fortunately, the "boss" was home and willingly came to the rescue of my



car with tractor and chain. When I told him of my purpose, he recommended I see a Mrs. Reed in the village for the latest crane news. When I called on Mrs. Reed, she explained that it was her husband, who ran the grocery store, who could best help me. An RCMP constable happened to be visiting at the Reed home when I called. He said he had seen a flock on stubble the day before but had found none in that area that morning. Did this mean they had left the district, I began to wonder? However, I went in search of Mr. Reed, who was indeed most helpful. He phoned the farmer on whose land the birds had last been seen and draw a map to enable me to find the very field on which they had been feeding that morning. Driving to this field, which lay on somewhat higher ground northwest of Midnight Lake, was no problem, but there were no cranes there, only a farmer inspecting his land. He told me that only moments before he had, unintentionally, flushed the cranes and they had taken off towards the lake. As the Reed map also showed the part of the lake most often used by the cranes, which happened to be fairly near a road, I drove there. Success at last - ten ten adult and one largely yellowish-brown young Whooping Crane were feeding, immersing their heads or simply standing about in the shallows near the middle of the lake. This flock represented, at that time, very nearly a third of the world population of the species. If it was representative of the rest, the presence of only one young bird in the flock suggested a very low reproductive success. Since there was no way of approaching the birds for a better view, I decided to call it a day and to look for them on the fields the next morning.

Early the next morning, during a light snowfall, I found them feeding on a swathed field. I approached them a little too closely and they took flight, but only flapped their wings a few times and then glided, presenting a magnificent sight, to land not far off on the same field. I noted, and have since read of others reporting this, that well before coming down, they would fly with their legs brought forward,

under the belly, and that they only lowered them a second or two before reaching the ground. After these sights, I drove home, well-contented. A Rough-legged Hawk and two Northern Shrikes seen on the homeward journey added to my satisfaction.

On October 17, 1970, Dr. Robert Turner, for many years organizer of the Edmonton Bird Club's field trips, and I set out to see Whooping Cranes at Glaslyn. It was a beautiful, warm day and the trip went off like clockwork. At one o'clock, we were on the shore of Midnight Lake, and there were two adult Whooping Cranes, each standing on one leg in the shallow water, asleep. We were able to approach to within about a hundred yards when they noticed us, raised their heads, called, and one, opening its wings into the wind, took a few jumps while the other bird bowed. After this short bout of display, they slowly walked through the shallow water toward the south end of the lake. Here another display, with opened wings and jumps, occurred, to be followed by a spell of feeding with the beak under the water to about the level of the eyes. After watching this presumed pair for awhile, we drove to the field where I had seen the flock of eleven cranes the year before, but we found nothing. As we drove past the lake on the start of our homeward journey, we saw our two birds far out on the lake and evidently once more asleep. My companion having had good views of his first Whooping Cranes, we felt we had had a very successful day.

This was not the case with my last white crane venture on October 9, 1972, made with Philip Taylor, now of the Canadian Wildlife Service. This time, Whooping Cranes had been reported at Wooland Lake near Meadow Lake, Saskatchewan. We walked along the shore of Wooland Lake to a point from which all of it could be seen. Across from us, an adult Bald Eagle was perched in a tree and there was a family of Tundra Swans, but no cranes, nor did enquiries from local people elicit news of any recent crane sightings. The modest highlight of our trip was a Merlin which rose, rather laboriously, with a shorebird, probably a Lesser Yellowlegs, in its talons, at which it pecked as it flew away.

ADDITIONAL RECORDS OF SKIPPERS AND BUTTERFLIES FROM DINOSAUR PROVINCIAL PARK

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Bird and Kondla (1974) reported 18 species of skippers and butterflies from Dinosaur Provincial Park and vicinity. Based on subsequent research, this paper reports new records from the park and vicinity. Included here are 30 new records for the area, a number of flight period extensions, additional flight dates and three corrections of previous reports.

Recent designation of the park as a World Heritage Site renders more important the ongoing documentation of park resources. Work leading to World Heritage Site designation included a review of park boundaries with a resulting reduction in the popularly recognized boundaries to reflect the requirements of provincial legislation. This paper deals with the area shown as park by Kondla (1978), plus 2 km wide peri-

pheral strip. Kondla (1978) should also be consulted for a description of the study area environment.

ANNOTATED LIST

Most of the common names are from Hooper (1973). Scientific names and the species and subspecies levels follow the latest North American checklist (Miller and Brown, 1981). Genus names follow Howe (1975). Order of presentation follows Miller and Brown (1981).

Specimen dates are given in an abbreviated form (eg. 6-5-80 means 6 May 1980). Identification of *Erynnis* specimens was confirmed by genitalia examination.

This list was compiled from observations and collections by N. Kondla in 1975, 1978, 1979, 1980; T. Thormin in 1975, 1976, 1979; H. Pinel in 1981 and 1982; F. Sperling in 1979; J. Acorn in 1979; and H. Coneybeare in 1975.

HESPERIIDAE

Silver-spotted Skipper, *Epargyreus clarus clarus*. 5-6-79, 17-6-80, 18-6-80; coulee crest, riparian woodland and riparian shrubbery; new record.

Northern Cloudy Wing, *Thorybes pylades*. 5-6-79; salty seepage in coulee; new record.

Dreamy Dusky Wing, *Erynnis icelus*. 23-5-77; riparian woodland; new record.

Afranius Dusky Wing, *Erynnis afranius*. Reported by Bird and Kondla (1974) as Persius Dusky Wing; correction, new records. In Alberta, this frequently misidentified species occurs in the prairies and southern foothills regions in native grassland habitat.

Persius Dusky Wing, *Erynnis persius*. 5-6-79; riparian woodland; new flight date.

Common Checkered Skipper, *Pyrgus communis communis*. 9-8-78, 16 to 18-6-80, 5-6-81; grasslands and low shrublands; new flight dates.

Garita Skipper, *Oarisma garita*. 17 and 18-6-80, 5-6-81; local in rich grasslands; new flight dates.

Uncas Skipper, *Hesperia uncas uncas*. 17-6-80, 5-6-81; prairie grassland; new record.

Assiniboia Skipper, *Hesperia comma assiniboia*. 9-8-78; grassland habitat in badlands; new records.

PAPILIONIDAE

Bruce's Swallowtail, *Papilio bairdii brucei*. 19-7-75; new flight date.

Badlands Old World Swallowtail, *Papilio oregonius dodi*. 5-7-79, 8-5-80, 13-5-80, 14-5-80; escarpment edges and hill tops; new record.

Zelicaon Swallowtail, *Papilio zelicaon nitra*. 6-5-80; escarpment edge; new record.

Tiger Swallowtail, *Papilio glaucus*. 5-6-81; riparian forest; new record.

PIERIDAE

Western Checkered White, *Pieris occidentalis occidentalis*. 7-5-80, 14-5-80, 17-6-80; escarpment edges and grasslands; new record.

Olympia Marble, *Euchloe olympia*. 2-6-79, 5-6-79, 6-5-80, 7-5-80, 12-5-80, 13-5-80, 14-5-80, 5-6-81; badlands, hilltops and escarpment edges; new record.

Yellow Alfalfa Butterfly, *Colias philodice eriphyle*. 19-7-75, 9-8-78, 7-5-80, 14-5-80, 5-6-81; new flight dates.

Alexandra Sulphur, *Colias alexandra alexandra*. 13-5-80; open riparian forest; new record.

LYCAENIDAE

Purplish Copper, *Lycaena helloides*. 12-6-76; new record.

Western Tailed Blue, *Everes amyntula albrighti*. 18-6-80; riparian forest; new record.

Spring Azure, *Celastrina ladon lucia*. 7-5-80, 13-5-80; in riparian forest; new record.

Melissa Blue, *Plebejus melissa melissa*. 19-7-75, 22-8-75, 10-8-78, 5-6-79, 18-8-79, 5-6-81, 24-6-82; badlands and grasslands; new flight dates.

Greenish Blue, *Plebejus saepiolus amica*. 5-6-79, 18-6-80, 5-6-81; shrubby areas and open riparian forest; new record.

Shasta Blue, *Plebejus shasta minnehaha*. 25-6-76; badlands; new record.

Acmon Blue, *Plebejus acmon lutzi*. 5-6-79, 12-6-79, 5-6-81; badlands and escarpment edges; new record.

NYMPHALIDAE

Variegated Fritillary, *Euptoieta claudia*. 9-8-78, 18-8-79; badlands; new record.

Great Spangled Fritillary, *Speyeria cybele pseudocarpentori*. 18-6-80; riparian forest; new flight date.

Aphrodite Fritillary, *Speyeria aphrodite*. 9-8-78; grasslands in badlands; new record (previously reported as Atlantis Fritillary); new flight date.

Callippe Fritillary, *Speyeria callippe calgariana*. 16-6-80, 17-6-80, 18-6-80; grasslands and coulee edges; new flight dates.

Atlantis Fritillary, *Speyeria atlantis*. 12-6-76, 18-6-80; riparian forest; new flight dates, the previous report of this species was based on the similar Aphrodite Fritillary. A subspecies name has not been used since variability within populations of this region is such that the subspecies names *hutchinsi, lais,*or *beani* can be used for individual specimens.

Acasta Checkerspot, *Chlosyne acastus acastus*. 22-8-75, 12-6-76, 3-6-79, 5-6-79, 8-5-80, 12-5-80, 18-6-80, 24-6-82; badlands; new flight dates.

Pearl Crescent, *Phyciodes tharos*. 22-8-75, 3-6-79, 5-6-79, 18-8-79, 8-5-80, 12-5-80, 13-5-80, 18-6-80, 5-6-81; abundant in most habitats except riparian forest where it is largely replaced by the Tawny Crescent; new flight dates; on re-examination the previously reported Meadow Crescent was determined to be a dark female of the Pearl Crescent.

Tawny Crescent, *Phyciodes batesii*. 18-6-80; abundant in riparian forest; new record.

Gray Comma, *Polygonia progne*. 17-6-80; riparian forest; new record.

Mourning Cloak, *Nymphalis antiopa*. 26-7-71; riparian forest; new record, specimen overlooked for 1974 list.

Milbert's Tortoiseshell, *Nymphalis milberti*. 8-5-80; badlands; new record.

Painted Lady, *Vanessa cardui*. 5-6-81; badlands; new record.

SATYRIDAE

Ringlet, *Coenonympha inornata benjamini*. 4-6-79, 5-6-79, 12-5-80, 14-5-80, 18-6-80, 5-6-81, 24-6-82; abundant in grasslands; new record.

Large Wood Nymph, *Cercyonis pegala ino*. 19-7-75; grassland; new record.

Small Wood Nymph, *Cercyonis octus charon*. 19-7-75; grasslands; new flight date.

Riding's Satyr, *Neominois ridingsii ridingsii*. 12-6-76, 16-6-80, 17-6-80, 18-6-80; coulee edges and badlands; new record.

Varuna Arctic, *Oeneis uhleri varuna*. 2-6-79, 4-6-79, 5-6-79, 8-5-80, 12-5-80, 13-5-80, 14-5-80, 5-6-81; grasslands and grassy areas in badlands; new record.

Alberta Arctic, *Oeneis alberta alberta*. 6-5-80, 7-5-80, 8-5-80, 14-5-80; grasslands and grassy areas in badlands; new record.

SPECIES TO BE EXPECTED

Future workers should watch for the following species that, based on available habitat, may have low populations or scattered colonies in the study area:

Amblyscirtes vialis, Polites mystic, Pieris rapae, Harkenclenus titus, Glaucopsyche lygdamus, Vanessa atalanta, Polygonia satyrus, Chlosyne gorgone.

As well, the following stray or migrant species can be expected:

Pieris protodice, Colias eurytheme.

DISCUSSION

A total of 45 taxa are now known from the park and immediate environs. Future work will likely show an additional 14 or so species to be present. Except for the typically richer prairie skipper fauna, the number of species per family is representative of the provincial situation.

Of the total number of known species, 30 have been found in the complex of badlands/coulee habitats; 17 have been found in grasslands; and 17 have been found in riparian woodlands. Nine of the riparian woodlands species are essentially restricted to this local habitat type. There are apparently no species restricted to the prairie grasslands, species of this habitat type being found in suitable areas of grassland in the badlands and coulees. Only two species (Shasta Blue and Acasta Checkerspot) are essentially restricted to badlands. The high diversity of species in the badlands/coulee complex of habitats is due partly to the presence of grassland patches but primarily due to the variety of vegetation types and larval foodplants to be found in the coulees.

The only area in Alberta with a similar environment that has had the skipper and butterfly fauna documented is the lower Milk River-Lost River area approximately 200 km SSE of Dinosaur Park (Smith and Bird, 1977; Thormin, Kondla and Bird, 1980; Kondla, Thormin and Pike, 1981). These sources identify 57 species from the lower Milk River-Lost River area. Together with the previously unreported occurrence the Zerene Fritillary (*Speyeria zerene garretti*) and Leto Fritillary (*Speyeria cybele leto*), this area has about one third more known species than the Dinosaur Park area.

I expect this differential will be maintained as residual species are added to the lists for the respective areas. The reasons for this prediction are, partly, the smaller size of the Dinosaur Park study area and influence of the nearby Sweetgrass Hills as a source of windblown strays. The major reason for maintenance of the higher species diversity in the lower Milk River-Lost River area lies in the number of species which are unlikely to be found as far north as Dinosaur Park.

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LITERATURE CITED

Bird, C.D. and N. Kondla. 1974. Some skippers and butterflies from Dinosaur Provincial Park, Alberta. Blue Jay 32: 87-88.

Hooper, R.R. 1973. The Butterflies of Saskatchewan. Saskatchewan Department of Natural Resources. 216 pp.

Howe, W.H. (ed.) 1975. The Butterflies of North America. Doubleday, New York. 633 pp.

Kondla, N.G. 1978. The birds of Dinosaur Provincial Park, Alberta. Blue Jay 36: 103-114.

Kondla, N.G., T.W. Thormin and T. Pike. 1981. Oslar's Roadside Skipper in Alberta. Alberta Naturalist 11: 15-16.

Miller, L.D. and F.M. Brown. 1981. A Catalogue/Checklist of the Butterflies of America North of Mexico. The Lepidopterists' Society, Memoir No. 2. 280 pp.

Smith, W.W. and C.D. Bird. 1977. Some butterflies and skippers from the Milk River-Lost River area of Southeastern Alberta. Blue Jay 35: 15-18.

Thormin, T.W., N.G. Kondla and C.D. Bird. 1980. Further records of skippers and butterflies from the Milk River-Lost River area of southeastern Alberta. Blue Jay 38: 5-10.

RECENT PUBLICATIONS ON THE NATURAL HISTORY OF ALBERTA

Compiled by David M. Ealey and Martin K. McNicholl

Anonymous. 1983. The Eighty-third Audubon Christmas Bird Count, Christmas Bird Counts in Alberta. Amer. Birds 37(4): 436-439.

Anonymous. 1983. Wildlife compatible agriculture. Conservator 4(3): 4-5. - rotational grazing in Alberta.

Anonymous. 1983. Bird club honors Reg Heath. Edmonton Bird Club Newsletter: Feb. 1983: 1.

Anonymous. 1983. Field sightings. Edmonton Bird Club Newsletter. Feb. 1983: 3.

Anonymous. 1983. Field sightings. Minutes Edmonton Bird Club April 1983: 2-3.

Barbour, L. 1983. River terraces in Dinosaur Provincial Park. Pica 4(3): 8-10.

Bennett, G. 1983. Great Canadian roundup-spring brand. Birdfinding in Canada 3(4): 8-14.

Brown, A. 1983. Peregrine Falcons return to Calgary. Pica 4(3): 13-16.

Catto, N.R. 1983. Loess in the Cypress Hills, Alberta, Canada. Can. J. Earth Sci. 29(7): 1159-1167.

Clark, J. 1983. The eighty-third Audubon Christmas bird count. 150. Jasper, Alta. Amer. Birds 37: 437.

Collister, D. 1983. Bird highlights, Calgary, August 1983. Calgary Field Nat. Newsletter 5(2): 1-2.

Collister, D.M. 1983. Willow-aspen river valley in Thirty-fifth Winter Bird Population Study. Eds. C.L. Cink and R.L. Boyd. Amer. Birds 37(1): 37.

Crins, W.J. and P.W. Bull. 1983. The taxonomy of the Carex pensylvanica complex (Cypernecae) in North America. Can. J. Bot. 61: 1692-1717.

Cuthiell, D. 1983. Spring bird report 1983. Edmonton Nat. 11(2): 3-7.

Donald, D.B. 1983. Erratic occurrence of anostracans in a temporary pond: colonization and extinction or adaptation to variations in annual weather? Can. J. Zool. 61: 1492-1498.

Donald, D.B. and D.E. Patriquin. 1983. The wing length of lentic Capnirdae (Plecoptera) and its relationship to elevation and Wisconsin glaciation. Can. Ent. 115: 921-926.

Dunsworth, G.B. and B.P. Dancik. 1983. Seedling variation among Alberta populations of white spruce (Piceae glauca Moench Voss) in controlled environments. Northwest Sci. 57(1): 74-83.

Dunsworth, G.B. and B.P. Dancik. 1983. Erratum: seeding variation among Alberta populations. . . Northwest Sci. 57(2): 155.

Ebel, G.R.A. undated (1983). Birds of Beaverhill Lake. A field checklist. Edmonton Bird Club, Edmonton. 8 pp.

Ebel, G.R.A. 1983. Birds of the Edmonton area. A field checklist. Second edition. Edmonton Bird Club, Edmonton. 8 pp.

Ebel, R. 1983. The eighty-third Audubon Christmas bird count. 156. Wabamun Lake, Alta. Amer. Birds 37: 438.

Ebel, G.R.A. and M. Cox. 1982. Birding Wabamun Lake and environs. Birding around Edmonton Ser. No. 1. Edmonton Bird Club, Edmonton. 4 pp.

Fairbairn, N., M.S. Pickard and Y. Hiratsuka. 1983. Inhibition of Endocronertium harkensii spore germination by metabolites of Scytalidium uredinicola and S. album, and the influence of growth medium on inhibitor production. Can. J. Bot. 61: 2147-2152.

Finlay, J. and C. Finlay. 1983. The suburban moose. Edmonton Nat. 11(2): 13.

Fischer, William C. and B. Riley McClelland. 1983. A cavity-nesting bird bibliography including related titles on Forest Snags, Fire, Insects, Disease, and Decay. USDA For. Serv. Gen. Tech. Rep. INT-140. [This 1700-reference index covers all of North America, including Alberta. - ed.]

Gajadher, A.A., R.J. Cawthorn and D.J. Rainnie. 1982. Experimental studies on the life cycle of a renal coccidium of Lesser Snow Geese (Anser c. caerulescens). Can. J. Zool. 60: 2085-2093.

Gardner, C. 1983. The eighty-third Audubon Christmas bird count. 153. Medicine Hat, Alta. Amer. Birds 37: 438.

Gardner, J.S. 1983. Observations on erosion by wet snow avalanches, Mount Rae area, Alberta, Canada. Arctic and Alpine Research 15(2): 271-274.

Giroux, J.-F., D.E. Jelinski and R.W. Boychuk. 1983. Use of rock islands and round straw bales by nesting Canada geese. Wildlife Soc. Bull. 11(2): 172-177.

Gollop, J.B. 1983. Prairie Provinces Region, The Winter Season: December 1, 1982-February 28, 1983. Amer. Birds 37(3): 311-312.

Gulley, J. 1983. The eighty-third Audubon Christmas bird count. 148. Fort McMurray, Alta. Amer. Birds 37: 437.

Halladay, I. 1983. The eighty-third Audubon Christmas bird count. 144. Calgary, Alta. Amer. Birds 37: 436-437.

Harper, A.M. and S. Freyman. 1983. Cold-hardiness of 1-, 2-, and 3-year-old alfalfa infested with the pea aphid (Homoptera: Aphididae). Can. Ent. 115: 1243-1244.

Harris, W.C. 1983. Prairie Provinces Region. Amer. Birds 37(2): 192-194.

Hallworth, B. 1983. Botany highlights. Calgary Field Nat. Newsletter 5(2): 2.

Holroyd, G. 1983. The eighty-third Audubon Christmas bird count. 142. Banff-Canmore, Alta. Amer. Birds 37: 436.

Horn, W. 1983. Birding in Kinnaird Ravine. Birding around Edmonton Ser. Booklet No. 4. Edmonton Bird Club, Edmonton. 4 pp.

Johnston, S. 1983. The eighty-third Audubon Christmas bird count. 155. The Snake's Head, Alta. Amer. Birds 37: 438.

Johnston, S. 1983. The eighty-third Audubon Christmas bird count. 157. Wildlife Reserve of Western Canada, Alta. Amer. Birds 37: 438-439.

Jones, E.T. 1983. Birding in Whitemud Creek Park (north section). Birding Around Edmonton Ser. Booklet No. 5. Edmonton Bird Club, Edmonton. 4 pp.

Jones, K.L. 1983. Current knowledge of the effects of cattle grazing on aspen in the Alberta parkland. Rangelands 5(2): 59-60.

Keating, M. 1983. The crisis in our forests. Nat. Can. 12(3): 10-22.

Lange, J. 1983. The eighty-third Audubon Christmas bird count. 146. Edmonton, Alta. Amer. Birds 37: 437.

Lange, J. 1982. Birding at Egg Lake; Birding the Goodridge Lake area. Birding Around Edmonton Ser. No. 8. Edmonton Bird Club, Edmonton. 6 pp.

L'Hirondelle, S. 1983. Boreal forest field trip. Edmonton Nat. 11(2): 14-16.

Lightbody, J.P. and J.S. Millar. 1983. Morphological variation within populations of Peromyscus maniculatus from different geographical areas. Can. J. Zool. 61: 934-936.

Lohr, L. 1983. The eighty-third Audubon Christmas bird count. 147. Erskine, Alta. Amer. Birds 37: 437.

Lohr, L. 1983. The eighty-third Audubon Christmas bird count. 154. Stettler, Alta. Amer. Birds 37: 438.

Mackintosh, D.J. Canadian nestbox report, 1982. Bluebird trail, Lethbridge, Alberta. Sialia 5: 97-98.

Marshall, S.A. 1983. A revision of the genus Aptilotus Mik in North America (Diptera Sphaeroceridae). Can. J. Zool. 61: 1910-1924.

McElhaney, R. and J. McElhaney. 1983. Close call for a Spotted Sandpiper. Edmonton Nat. 11(2): 8-9.

McElhaney, R. and J. McElhaney. 1983. Sighting of a Mallard-Gadwall hybrid. Edmonton Nat. 11(2): 12.

McIvor, M. 1983. The eighty-third Audubon Christmas bird count. 143. Bow Summit, Alta. Amer. Birds 37: 436.

Meisner, J. and B.K. Mitchell. 1983. Phagodeterrency induced by two cruciferous plants in adults of the flea beetle Phyllotreta striolata (Colcoptera: Chrysomelidae). Can. Ent. 115: 1209-1214.

Melnyk, R.B. 1983. Accelerated circannual cycles in ground squirrels, Spermophilus richardsonii, kept in constant conditions. Can. J. Zool. 61: 1765-1770.

Métras, L. 1983. Migratory birds killed in Canada during the 1981 season. Can. Wildl. Serv. Progress Notes No. 137. 37 pp.

Morris, D.W. 1983. Field tests of competitive interference for space among temperate-zone rodents. Can. J. Zool. 61: 1517-1523.

Nudds, T.D. 1983. Variation in richness, evenness, and diversity in diving and dabbling duck guilds in prairie pothold habitats. Can. J. Zool. 61: 1547-1550.

Osborne, C. 1983. The hawk's interrupted walk. Pica 4(3): 11-12.

O'Shea, M. 1983. The eighty-third Audubon Christmas bird count. 152. Lethbridge, Alta. Amer. Birds 37: 438.

Parsons, W.B. 1983. Cardinal at Sylvan Lake, Alberta. Blue Jay 41: 167.

Price, M.F. 1983. Management planning in the Sunshine area of Canada's Banff National Park. Parks 7(4): 6-10.

Resource Monitoring Committee. 1982. The importance and potential of the timber resource in Alberta. Can. Inst. For. (Rocky Mountain Section). 13 pp.

Russell, L.S. 1983. Evidence for an unconformity at the Scollard-Battle contact, Upper Cretaceous strata, Alberta. Can. J. Earth Sci. 20: 1219-1231.

Sanchyn, D.J. and J.S. Gardner. 1983. Morphometry of open rock basins, Kananaskis area, Canadian Rocky Mountains. Can. J. Earth Sci. 20(3): 409-419.

Schaber, B.D. 1983. The behaviour of Odynerus dilectus, a predator of the Alfalfa Weevil. Pica 4(3): 17-20.

Shan, R.K. and D.G. Frey. 1983. Pleuroxus denticulatus and P. procurrus (Cladocera, Chydoridae) in North America: distribution, experimental hybridization, and the possibility of natural hybridization. Can. J. Zool. 61: 1605-1617.

Smith, A.R. and E. Kuyt. 1983. Occurrences of the Black-legged Kittiwake, Rissa tridactyla, in the prairie provinces and north-central United States. Can. Field-Nat. 97: 111-113.

Snell, R.R. and K.M. Cunnison. 1983. Relation of geographic variation in the skull of Microtus pennsylvanicus to climate. Can. J. Zool. 61: 1232-1241.

Stiles, D. 1983. Canadian nestbox report, 1982. Calgary, Alberta, area bluebird trail report. Sialia 5: 97.

Stiles, D. 1983. Annual bus trip (1983) to Ram Falls. Pica 4(3): 5-7.

Storms, R. 1983. The eighty-third Audubon Christmas bird count. 149. Horseshoe Canyon, Alta. Amer. Birds 37: 437.

Strong, W.L. and G.H. LaRoi. 1983. Rooting depths and successional development of selected boreal forest communities. Can. J. For. Res. 13(4): 577-588.

Thormin, T. 1983. Editorial. Edmonton Nat. 11(2): 2. - includes several bird sightings at Beaverhill Lake.

Thormin, T. 1983. Bladderworts. Edmonton Nat. 11(2): 9-10.

Tietje, W.D. and R.L. Ruff. 1983. Response of black bears to oil development in Alberta. Wildl. Soc. Bull. 11(2): 99-112.

Van Tighem, K. 1983. Trees of the western wind. Nature Can. 12(4): 24-27.

Vance, R.E., D.Emerson and T. Habgood. 1983. A mid-Holocene record of vegetation change in central Alberta. Can. J. Earth Sci. 29(3): 364-376.

Verspoor, E. 1983. Black bear, Ursus americanus, predation on a mule deer, Odocoileus hemionus. Can. Field-Nat. 97: 114.

Weseloh, D.V. (Chip) and L.M. Weseloh. 1983. Numbers and nest site characteristics of the Piping Plover in central Alberta, 1974-1977. Blue Jay 41(3): 155-161.

Wilkinson, K. and E.A. Johnson. 1983. Distribution of prairies and solonetzic soils in the Peace River district, Alberta. Can. J. Bot. 61(7): 1851-1860.

Young, V. 1983. The eighty-third Audubon Christmas bird count. 145. Dunstable, Alta. Amer. Birds 37: 437.

Zammuto, R. 1983. The eighty-third Audubon Christmas bird count. 151. Kananaskis Valley, Alta. Amer. Birds 37: 437-438.

ERRATA

In the title, AN 13(3): 106, "ARACNIDAE: ARANEIDA" *should read* "(ARACHNIDA: ARANEIDA)". On the same page, 5th line, "silkin" *should read* "silken". My apologies.

NATURALISTS' BOOKSHELF

COMPLETELY FOXED

by Miles Smeeton. 1980. Van Nostrand Reinhold Ltd. 148 pp. $9.95.

"Completely Foxed" is a delightful series of tales about the moose, bison, Swift Fox and Trumpeter Swans that have been residents of the Smeeton's private game reserve in the foothills of Alberta. Smeeton writes energetically and humorously about his experiences with the care and raising of these animals. The work that he and his wife, Beryl, put into the nurturing of Swift Foxes has been instrumental in providing stock for the recent Swift Fox reintroduction program on the Alberta prairies.

The fifteen chapters of "Completely Foxed" are a loosely-woven series of personal stories by someone whose love of nature and animals is clear, despite the fact that he says he really only has fondness for dogs and horses. His observations of wildlife behaviour are very perceptive, although heavily personified as are many popular works on undomesticated animals. One can forgive Smeeton this natural tendency to look upon animals as having human traits because he helps convey the unique relationship that often develops between captive animals and their keepers.

Smeeton also blends his tales of the wildlife with humorous observations on human characters. For example, he tells the tale of the "mosquito hawk". In conversation with a neighbour, Smeeton identifies the winnowing of a snipe, to which his neighbour replies, "That's not a snipe. That's a mosquito hawk and no one's ever seen one." When Smeeton starts to point out the snipe to his neighbour, the reply is, '"Well, you've got mighty good eyes", said Sid, not deigning to look up for something that he knew perfectly well could not be seen.'

I heartily recommend "Completely Foxed" to naturalists who still have an appreciation for that wondrous and unpretentious enthusiasm about living things that radiates from a few special people.

- David M. Ealey

KLUANE, PINNACLE OF THE YUKON

by J. Theberge, Editor. Doubleday Canada Ltd., Toronto, Canada. 175 pp., $35.00 hardcover.

There are so many books published on the Canadian National Parks that one despairs at the prospect of selecting adjectival superlatives for a new book. This is because our parks are such special places that nearly any book published, by the very nature of its topic, will fairly glow in the reflection of its subject material. However, after reading "Kluane" I feel no desperation - it is an absolutely splended portrayal of a unique piece of Canada. It is not only a well-illustrated, visually pleasing book, but it is a comprehensive review of the

park that encompasses the youngest and highest mountain range in Canada, the St. Elias Mountains. Sixteen scientist-writers contributed fifteen chapters to this publication, on various aspects of the natural history and human involvement in the Kluane region.

Although I travelled to the Yukon for work several times since 1979, I had never managed to visit Kluane. In 1982, I and a friend, Richard Pratt (former environmental director of the Canadian Nature Federation) were able to hike the Slims River Trail to the foot of the Kaskawulsh Glacier. For both of us, it was the highlight of our Yukon holiday. Also, my personal visit to the park made me a little more comfortable in assessing the merits of this book.

The first three chapters on the elements I found informative introductions to the physical features, forces and processes that are responsible for the impressive structural and dynamic aspects of Kluane. The high mountains, the glacier systems and climatic influence are all clearly presented. The chapter on glaciers is a particularly good primer of the nature and importance of icefield systems in a high mountain range. Kluane is such a good example of current and past glacial phenomena that it is appropriate that such emphasis is placed upon the glaciers.

The emphasis on glaciers carries through into the second part of the book on "The Living Things". Valerius Geist, well-known to Alberta naturalists, presents an evolutionary perspective of periglacial environments and the effects of these "pulse-stabilized systems" on plant and animal communities. A natural result of the rich, productive soil generated by glacial action is the development of diverse plant communities which lead to diverse animal communities. Geist's thought-provoking speculation on the development of man near glacial environments is an appropriate finish to this chapter, and clearly argues for the preservation of such environments as a means to do research that may ultimately tell us more about our own evolution.

Something that is a treat about this book is the almost poetic prose used by many of the authors. There are relatively few pages of dry discourse. David Murray and George Douglas entitle their chapter "Wings in the Wind"; and Manfred Hoefs, a chapter on large mammals, "Horns and Hooves". Two key points of the chapters on flora and fauna of the park are the unusually high diversity of such a far northern area and the small amount of snow- and glacier-free habitat contained within the park. This latter point is of serious concern to many of the authors particularly in light of increased access via the upgraded Alaska Highway that runs along the north side of the park and of some plans by Parks Canada to develop tourist facilities into the park.

The last part of "Kluane" deals with man and his involvement in the region, starting with prehistoric man and leading up to modern times. Mountaineering and flying are two of man's activities that have been important in increasing our knowledge of the park area. The fact that early research projects required the evolution of the aircraft as a workhorse in the mountains and also required dedicated effort and rugged mountaineering experience, serves to show the isolatedness and wilderness characteristics of the interior of Kluane National Park.

The publication is not without shortcomings. I noted many small errors in typesetting, spelling and several black-and-white photographs that were not as sharp as I would have liked, especially in the chapter on prehistoric man. These

small production glitches do not really detract from the book, however.

My final comments on "Kluane, Pinnacle of the Yukon" include a personal encouragement and a warning, both of which I would hope are accurate reflections of the desires of the contributors to this book. First, I would encourage naturalists to read "Kluane" and visit the park. The book gave me many hours of enjoyment and the park, an unforgettable experience. However, my warning is a commonly-expressed one about wilderness areas. Unless concerned people make their feelings known, increased access and various types of planned and future developments will change the character of this unique park. Already the low-flying aircraft traffic through the Slims River valley and over the Kaskawulsh glacier is beginning to spoil the wilderness experience, and traffic year-round along the Alaska Highway is already causing problems with overcrowded facilities. The pressure is on to make parts of the interior of Kluane more and more accessible. If developments are expanded, there may be an increased number of visitors who can come and take a look from the comfort of a vehicle, but at the loss of unique opportunities for wilderness experiences. Ultimately, it is our quality of life that diminishes with mass promotion and universal access to such areas, because I feel that true appreciation of our environment comes only from the expending of a little effort.

- David M. Ealey

FAN NEWS

FAN ANNUAL GENERAL MEETING

The Annual General Meeting of FAN will be held January 20-22 at Mount Royal Community College, 4825 Richard Road (near Crowchild Trail just north of Glenmore Trail), in Calgary. Signs will be posted at the college. The theme for the weekend is "Parks, Wilderness Areas and Ecological Reserves - A diversity of mandates and management of Alberta's heritage natural lands".

Friday evening registration begins at 7 pm, a film follows at 8, with coffee and a snack after the film. On Saturday, registration begins at 9 am, the AGM is at 10, followed by the Board of Directors' meeting. Two field trips are planned at 1 pm, one to Nose Hill and one to Glenmore Reservoir. An evening meal (under $6) will be provided Saturday at 6 pm, followed by the evening program. On Sunday, the staff of Fish Creek Provincial Park will conduct a field trip, beginning at 10:30 am.

FAN's 1984 Executive will be elected at the AGM, and resolutions will be presented. FAN members are encouraged to attend and discover what FAN has been able to accomplish, with your help, in 1983. We hope to see you there.

FAN PINS AVAILABLE

The Federation has had lapel pins designed and manufactured, and they are now available, at a cost of $2.50 each, through Corporate Member Clubs. The pins feature the Great Horned Owl, and are an excellent way for FAN members and others to support FAN's continuing work. A share of the profit from the sales will go to local clubs, in addition.

BULL TROUT CONCERN RESPONSE

Following is the response a letter from FAN elicited regarding the status of the bull trout in the Province:

"Ms. Elizabeth Stinson
Federation of Alberta Naturalists. . .

Dear Ms. Stinson:

Thank you for your letter expressing concern with regard to the status of the bull trout and the need for more stringent controls on the catch of this species.

I am aware that this native species of fish is showing a decline in numbers over its natural range, and some steps have already been taken to protect this species. Permanent closures to angling are in place on all tributary streams of the Clearwater River, upstream of the Forestry Trunk Road; on a tributary of Burnt Timber Creek; on the headwater area of the Blackstone River and on Rundell Creek and an unnamed tributary to the Brazeau River. These closures are designed to protect spawning and rearing of bull trout.

Changes to the daily and possession limits for bull trout are now under consideration by the Fish and Wildlife Division and I expect some recommendations later this summer.

The Fish and Wildlife Policy for Alberta indicates that the primary consideration of the Government is to ensure that fisheries populations are protected from severe decline and that viable populations are maintained. In this regard, emphasis will be placed on the development of a management strategy for bull trout.

I appreciate your effort in expressing your concerns regarding this important fish species.

Yours truly, Don Sparrow, Associate Minister"

CLUB NEWS

EDMONTON BIRD CLUB

The Edmonton Bird Club elected a new executive at its September, 1983, meeting. The executive includes: Dr. Robert Turner, President; Muriel Clarke, Vice-President; Mae Cox, Secretary; Jack Park, Treasurer; and Edgar Jones, Price Ashton and Rainer Ebel as Directors.

Rainer Ebel and Mae Cox, with various contributors from the club, have prepared and distributed nine booklets in the birding around Edmonton series. Some of these booklets were distributed at the September FAN meeting in Canmore.

The EBC welcomes new members. It meets every third Friday of each month from September to April, except in January when it holds the annual banquet. Regular Friday meetings are in Room 245, Earth Sciences Building (formerly the Agriculture Building) at the University of Alberta. Illustrated talks on bird life are presented by well-known naturalists and professional biologists. For more details on meetings and membership, please call Mae Cox, 479-3488.

- David M. Ealey

NOTES AND NEWS

ALBERTAN RECIPIENT OF THE JOHN AND NORAH LANE AWARD

Further to our brief mention in the last AN (Western Regional Conference, North American Bluebird Society), Duncan Mackintosh was the third recipient of the John and Norah Lane Award. Mr. Mackintosh has done extensive trail work and lecturing and has been the mainstay of the Mountain Bluebird Trail. This group has furthered the cause of the Mountain Bluebird through an extensive trail system.

NEW WILDLIFE AREA

Polar Bear Pass, on Bathhurst Island, will soon be protected as a national wildlife area. The 5-km-wide lowland, stretching across the island's narrowest point, is being transferred to the Canadian Wildlife Service from the Department of Indian and Northern Affairs. Arctic foxes, lemmings, muskoxen and caribou inhabit Polar Bear Pass, and 30 species of birds nest there. Walrus, polar bears and three species of seals frequent the adjacent waters, which are open most of the year. The pass supports 122 species of moss, 182 species of lichens, seven kinds of fungi and more than 65 other plant species. Before the federal government took action to protect them, these large and diverse plant and animal populations were threatened by proposed oil exploration on Bathhurst Island.

MARINE BIRD ATLAS

The Canadian Wildlife Service has completed an atlas showing the distribution of marine birds on Canada's Pacific coast. The atlas presents the first concrete baseline data on birds at sea, and breeding marine bird populations on the British Columbia coastline. It complements a similar study undertaken by Alaska, and smaller-scale surveys (on breeding marine birds only) carried out by Washington state, Oregon and California.

The authors say one of the greatest threats to marine birds in the northern hemisphere is oil spills. They express concern about recent applications to establish a tanker terminal on the west coast of Canada or Washington state, and about the possible lifting of a moratorium on offshore drilling on the Canadian Pacific Shelf.

At least two years of surveys are needed, say the authors, before proper judgements can be made on terminal locations and offshore drilling operations.

NEW QUARTERLY JOURNAL

"Recent Publications in Natural History", a quarterly journal compiled by the American Museum of Natural History, has commenced publication. Each issue includes worldwide coverage, including publications in any language from any country; 24 subject headings, with cross-references listed in all appropriate categories; a full bibliographic citation for each title, including the ISBN or ISSN and price when available; annotations describing outstanding or unusual features; and scholarly book reviews. Covered are new scholarly publications in the natural sciences, anthropology, earth sciences, travel and expeditions, museology, reference, biography, the history of science and related subjects. Write American Museum of Natural History, RPINH Subscriptions, Library, Central Park West at 79th Street, New York, 10024. A subscription to Volume 2 for $10 includes Volume 1 free of charge. (Make cheques payable to American Museum of Natural History).

WATERFOWL TALKS PLANNED

Wildlife managers from Canada and the U.S. will begin negotiations in February on an international plan to conserve waterfowl. While most waterfowl are produced in Canada, they winter in the U.S. and Mexico. It is hoped Mexico can also be included in a North American plan which will be finished by 1985. Deciding how to share the costs of producing the birds and splitting the harvest may be the most difficult issues, as well as habitat maintenance.

BITS 'N PIECES

The Snail Darter - the tiny fish that held up completion of the huge Tellico Dam for more than two years - now is doing so well that federal wildlife officials have upgraded its status to "threatened" rather than "endangered". Once believed to exist on only one site, the species has been found elsewhere. . . .A new type of dinosaur, an early mammal-like creature, and the earliest snake discovered on the North American continent are among the finds at a Texas archeological site, the National Geographic Society has disclosed. The new type of dinosaur was the earliest form of ornithischianm, or "bird-hipped" dinosaur to be found. . . Maxhamish Lake Provincial Park has been established in B.C. The primary purpose of the park, some 520-hectares lying 125 km northwest of Fort Nelson, will be to provide quality beach and water-oriented recreational opportunities. . .Alberta Energy and Natural Resources is requesting information from anyone about observations of the Baird's Sparrow. . . . . Among interesting Alberta bird sightings this fall are a Parasitic Jaeger and an Ancient Murrelet. . . . A California state panel has allowed the continuation of a breeding program aimed at saving the California condor. The permit allows the U.S. Fish & Wildlife Service to take condor eggs in the wild and hatch them in captivity with the idea of eventually replenishing the condor population in the wild. . . . The Alaska Wildlife Alliance is a newly-formed organization which supplants and carries on the work of Greenpeace Alaska, now defunct. The new organization will focus specifically on wildlife species for which Alaska is a last refuge and critical habitat. Highest priorities at the moment are whales and wolves. . . . "Wolf" is a recently-launched newsletter for people interested in wolves and committed to the survival of that species in the wild and to its welfare in captivity. The accent is on news with a limited amount of comment. Janet Lidle, editor and publisher, welcomes clippings from newspapers and magazines as well as reports on research, educational programs and organizations concerning wolves. Write "Wolf", P.O. Box 112, Clifton Heights, PA, 19018. Subscriptions are $10 per year (3-4 issues).

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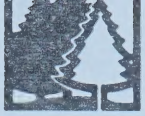

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